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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,048	09/09/2003	Shu Lin	PO-7939/MD-03-28	1953
157	7590	03/23/2005	EXAMINER	
BAYER MATERIAL SCIENCE LLC 100 BAYER ROAD PITTSBURGH, PA 15205			JACKSON, MONIQUE R	
			ART UNIT	PAPER NUMBER
			1773	
DATE MAILED: 03/23/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/658,048	LIU, SHU	
	<b>Examiner</b>	<b>Art Unit</b>	
	Monique R Jackson	1773	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                    |                                                                             |
|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____.                                                |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>9/03 &amp; 1/05</u> .                                                     | 6) <input type="checkbox"/> Other: ____.                                    |

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## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 7 is objected to because of the following informalities: in line 3, "form" should probably be "from". Appropriate correction is required.
2. Claim 11 is objected to because of the following informalities: "the both" should probably be "both". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 17, 18, 25, and 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "high molecular weight" in claims 17, 18, 25 and 26 is a relative term which renders the claim indefinite. The term "high" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Hence, it is unclear what molecular weight of polyurethane is high enough to meet the limitations of the claimed invention. Further it is noted that the claims and the specification do not recite what type of molecular weight is claimed, weight average, number average, viscosity average, etc. The Examiner also notes that these claims recite that the adhesive layer "comprises an aqueous dispersion" however it appears as if the Applicant is claiming the final molded product in which case the adhesive layer is a solid layer that is formed from the aqueous dispersions. Therefore, considering the Applicant recites that the adhesive layer "comprises" the aqueous dispersion, it is

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unclear whether the Applicant is attempting to claim the intermediate product or the final product.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-10 and 14-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Marton et al (USPN 4,241,129.) Marton et al teach a delamination resistant multilayer metal/polymer composite comprising a substrate layer of thermoplastic polymer such as a polystyrene or polycarbonate film having a metallized layer on a surface thereof, and then bonding the exposed metal surface to a structural plastic such as the same polycarbonate resin via an adhesive layer (Abstract; Col. 2, line 66-Col. 4, line 25; Examples.) Marton et al teach that the metal layer may preferably be an indium/tin alloy with weight percentages of both within the instantly claimed ranges (Col. 5, line 1-Col. 6, line 6.) Marton et al further teach that the thickness of the polymer substrate layer(s) of the composition is not particularly critical but usually is in the range from about 2 to about 10,000 microns, preferably from about 10 to about 500 microns (Col. 4, lines 6-19.) Marton et al teach that the polymer layers are preferably copolyester carbonates or polycarbonates and may contain one or more additive such as dyes, reinforcement fillers, pigments, and the like (Col. 3, line 63-Col. 4, line 6.) Marton et al also teach that the adhesive layer is preferably formed from polyurethanes or polystyrene block copolymers (Col. 7, lines 23-Col. 8, lines 13.) In terms of the limitations with respect to the

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adhesive layer such as “water-based”, “solvent-based”, “hot melt”, “dispersion” and “viscosity value”, the Examiner takes the position that these limitations are process limitations that do not materially affect the claimed final product comprising the dried or formed adhesive layer, and hence, the product taught by Marton et al anticipates the claimed invention. With respect to instant claims 7 and 8, the Examiner takes the position that Marton et al teach that the polymer layers may both be the same polycarbonate material and hence reads upon the limitation “compositionally identical” and further Marton et al teach that the polymer layer(s) may contain additives wherein the inner polymer layer comprises reinforcement fillers and hence would be compositionally different from the outer layer.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marton et al. The teachings of Marton et al are discussed above however Marton et al do not specifically teach that the surface of the polymer or polycarbonate layers have a matte or glossy finish as claimed. However, it is conventionally in the art to provide a polymer surface with a desired finish such as a conventional matte or glossy finished based on the desired aesthetic properties or desired end use of the product wherein it would have been obvious to one skilled in the art to determine whether the polymer surfaces of the composite taught by Marton et al should be provided with a matte or glossy finish based on the desired end use of the product.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R Jackson whose telephone number is 571-272-1508.

The examiner can normally be reached on Mondays-Thursdays, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Monique R. Jackson  
Primary Examiner  
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March 21, 2005